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# COMMUNICATION FACTORS, DISPOSITIONS, RESOURCES, AND BUREAUCRATIC STRUCTURE HAVE AN EFFECT ON THE IMPLEMENTATION OF CLOSE CONTACT TRACING OF COVID-19 IN BANJAR REGENCY, WITH POLICY AS A MODERATING VARIABLE

Juhairiyah Juhairiyah<sup>\*1,2</sup>, Rosihan Adhani<sup>2</sup>, Taufik Arbain<sup>2</sup>, Syamsul Arifin<sup>2</sup>, Ardik Lahdimawan<sup>2</sup>, Agung Dwi Laksono<sup>1,</sup> Dicky Andiarsa<sup>\*1</sup>

- 1. National Research and Innovation Agency, Indonesia
- 2. Masters Program of Public Health Study, Faculty of Medicine, University of Lambung Mangkurat, Indonesia

Correspondence: juhairiyah@brin.go.id and dicky.andiarsa@brin.go.id

# ABSTRACT

## **BACKGROUND**:

Various regions of Indonesia have unfulfilled close contact tracing for COVID-19 responsibilities as prevention and control measures, including Banjar Regency which is part of the contributory factors to the low goal of containment. The four factors of influence are communication, disposition, resource, and bureaucratic structure of tracing as implementation actors of close contact tracing, but other factors can strengthen or weaken policy implementation. This study aims to analyse the factors involved in close contact tracing.

## **METHODS:**

This quantitative study used a cross-sectional approach with the moderator variable being the policy context. The independent variables are communication, disposition, resource, and bureaucratic structure. The dependent variable is the implementation of close contact tracing of COVID-19. The instrument used is a questionnaire with a sample of 119 respondents that were taken with proportional random sampling. Data analysis used SPSS 26 application with moderated regression analysis (MRA).

## **RESULTS:**

The four factors communication, disposition, resource, and bureaucratic structure together affected the implementation of close contact tracing of COVID-19 by 51.8% and the other variables were not observed in this study. The effect increased to 55.7% after introducing the policy context variable. In the partial variable test, there is no effect on the resource, but after the interaction of the moderator variable in the policy context, there is a significant p-value of 0.036 on the resource variable.

## CONCLUSIONS:

Communication, disposition, resource, and bureaucratic structure impacted simultaneously on tracers in the implementation of close contact tracing of COVID-19 in Banjar Regency. They increased with a policy context variable as a moderator variable. The policy context variable can increase the effect of the resource factor as a pure moderator.

#### **KEYWORDS**

implementation, close contact tracing, COVID-19, moderator variable, policy context the power and interests of stakeholders

## INTRODUCTION

The Indonesian Government has declared that the Coronavirus Disease-19 (COVID-19) pandemic has ended and it has transitioned into an endemic state on June 21, 2023. This means that the Indonesian Government will no longer intervene in society to handle COVID-19 cases. The change in status is based on the consideration of the daily COVID-19 cases approaching near-zero levels, and the results of an antibody examination survey indicate that 99% of the population has developed antibodies, with 86 out of 100 people having received their first vaccine dose.[1] Although the pandemic status has ended, it cannot be denied that COVID-19 has caused numerous deaths and illnesses in Indonesia and even worldwide. As of April 2, 2023, the cumulative death toll in Indonesia still remains above the global average at 1.39%, and there has been a surge in positive cases by 45% and active cases by 59%. Prevention and control efforts should still be maintained to prevent another surge in cases from occurring.[1]

Some opinions are that contact tracing can help in controlling COVID-19.[2-4] A study in Germany states that intensive testing, contact tracing, and quarantine are important aspects of epidemic control, besides vaccination.[5] The Indonesian Government has established a policy regarding TLI (Testing, Tracing, and Isolation) contained in a Decree of the Minister of Health (Number 4641 of 2021), whose implementation is supported by tracers.[6] However, the implementation of close contact tracing for COVID-19 in various regions of Indonesia has not yet reached the set targets. This raises questions about the accuracy of the government's decision to change the pandemic status. There is a possibility that contact tracing has not been carried out properly, leading to the underreporting and inadequate tracking of active cases in Indonesia. This might create an impression of declining active cases when, in reality, they are not being recorded and traced accurately. Understanding the reasons behind the low achievement in contact tracing targets is essential to devise strategies for improving its implementation.

One specific region in Indonesia that falls below the national target is South Kalimantan, which has only achieved a tracing target of 57.1%. [6,7] Banjar Regency is one of the regencies (administrative regions in Indonesia) in South Kalimantan, contributing to the low tracking target. Almost all public health centres in Banjar haven't

achieved close contact tracing targets. There is limited research that specifically focuses on the context of Banjar Regency. This study aims to fill this gap by providing a localized understanding of the factors that influence the successful implementation of contact tracing measures in this specific region.

A study conducted on close contact tracing volunteers for COVID-19 in the United States, states that the implementation of a contact tracing program for COVID-19 will be successful with good communication, disposition, satisfactory resources, and an appropriate bureaucratic structure.[8] A study in the City of Palembang stated that the implementation of close contact tracing was not going well because several obstacles were found, including less communication, officers who did not understand their duties, a lack of cross-sector collaboration, inadequate human resources, incomplete supporting facilities, a less optimal organizational structure, and unclear instructions for the task.[9] The investigation of communication factors as a key determinant of contact tracing effectiveness is an innovative approach. Effective communication plays a pivotal role in promoting public understanding, cooperation, and compliance with contact tracing protocols. By examining the communication factors that facilitate or hinder the implementation of close contact tracing in Banjar Regency, this research aims to uncover valuable insight that can enhance communication strategies in the context of contact tracing efforts. In advance, the examination of individual dispositions, such as public compliance and risk perception, is a novel aspect of this research. Understanding how these dispositions shape individuals' attitudes and behaviours towards contact tracing can provide critical insights into the challenges faced by public health authorities in implementing effective tracing measures. By examining these factors, this study aims to contribute to the understanding of human behaviour and its implications for contact tracing strategies.

The results of another study suggest that the influence of factors is inconsistent with these four policy implementation. There are both direct and indirect effects of these four factors, and there is a possibility that other factors may also play a role and can either strengthen or weaken the influence of these four factors in policy implementation. [10,11] According to the theory of policy implementation developed by Merilee S. Grindle, the power and interests of stakeholders involved are indeed another that influences factor health policy implementation. The power and interests of these stakeholders can play a role in either supporting and promoting the policy or opposing and obstructing its implementation. It is necessary to expand the strategies available to policy implementers to manage stakeholders who resist or hinder implementation and also add strategies for those who support or encourage implementation.[12] Stakeholders need to be involved for a contact tracing program to work. [13,14]

This research is imperative due to the urgent requirement for efficient management of the COVID-19 pandemic in Banjar Regency. As the virus continues to spread, implementing robust contact tracing measures becomes paramount in preventing further transmission and containing outbreaks. The findings of this study can have immediate practical implications for policymakers and public health authorities in Banjar Regency. By identifying the factors that facilitate or hinder the implementation of close contact tracing, this research can provide actionable insights to improve the efficiency and effectiveness of contact tracing efforts. It can inform decision-making processes, resource allocation, and policy development related to contact tracing in Banjar Regency. The urgency of this research is further heightened by the potential to enhance public health response strategies, ultimately reducing the burden on healthcare systems and saving lives.

Furthermore, the investigation of policy (the power and interests of stakeholders) as a moderating variable adds a critical dimension to this research. Policies related to contact tracing have the potential to shape the implementation process and influence its outcomes significantly. Understanding the interplay between policy and the identified factors can guide policymakers in formulating evidence-based policies that maximize the impact of contact tracing efforts.

## **METHODS**

This study is a quantitative approach with an analytic observation design and a cross-sectional approach.[15] This study was conducted in Banjar Regency at 25 public health centres for six months from November 2022 to April 2023. This study uses healthy people as research samples who are one of the implementers in close contacts tracing of COVID-19. The confidentiality of the sample data in this study is maintained and can only be accessed for research purposes. Prospective participants can determine whether they are willing to participate in ongoing research by filling out informed consent.

The study has ethics approval by the Health Study Ethics Commission of the Faculty of Medicine, Lambung Mangkurat University, Indonesia, with the reference number 581/KEPK-FK ULM/EC/XII/2022.

#### DATA SOURCE

The sources of data in this study are both primary and secondary. Primary data was obtained directly by interview using an instrument in the form of a questionnaire given to the participants. The questionnaire consists of 49 questions, with details as follows: 8 questions for the communication variable, 8 questions for the disposition variable, 7 questions for the resource variable, 8 questions for the bureaucratic structure variable, 8 questions for the policy context variable, and 10 questions for the COVID-19 close contact tracking implementation variable. The interpretation of results utilizes a rating scale, with scores ranging from 1 to 5, where 1 represents the lowest and 5 the highest on the scale for positive questions, or vice versa for negative questions. Secondary data was obtained on the number of cases, the distribution cases, and policy documents regarding COVID-19 to find out the current situation of COVID-19 in Banjar Regency.

Inclusion criteria are tracers who are registered on the SILACAK application or have an assignment decree, and they were eligible to participate the study. Exclusion criteria relate to tracers who up until the end of the data collection schedule could not be contacted or found or have moved their domicile out of Banjar Regency.

The population in this study is all tracers responsible for close contact tracing of COVID-19 in Banjar Regency. The number of tracers is known to be 170 people. The sample used a proportional random sampling method and consisted of 119 people.

#### **STUDY VARIABLE**

This study used independent variables consisting of communication, disposition, resources, and bureaucratic structure; the dependent variable is the implementation of close contact tracing for COVID-19; and the moderator variable is the policy context.

The questionnaire instrument in this study has undergone validity and reliability testing. First, content validity was

conducted using expert judgment from three assessors, including two researchers from the National Research and Innovation Agency and one lecturer in health policy administration from the Public Health program at Lambung Mangkurat University. Subsequently, validity and reliability testing of the questionnaire were conducted on a sample of 30 individuals in the city of Banjarbaru, with characteristics similar to those of Banjar District in terms of the number of COVID-19 cases and tracing achievements, both of which were relatively low.

#### STATISTICAL ANALYSIS

Data analysis used the IBM SPSS (Statistics 26) with Python6.0 license (Stichting Mathematisch Centrum Amsterdam, The Netherlands) computer program with the Moderated Regression Analysis (MRA) method, or interaction test, which ensures the application of multiple linear regression where the regression equation contains an element of interaction (multiplication of two or more independent variables).

While SEM offers advantages in modelling complex relationship and latent construct, the choice of MRA in this research is driven by the need for a more straightforward analysis approach that aligns with the research objectives and available data. MRA allows for focused examination of predictive relationships, is applicable to smaller sample sizes, and provides interpretable results that can inform decision-making processes in the context of clos contact tracing implementation in Banjar Regency. The hypothesis in this study is that there is an influence between the variables of communication, disposition, resources, and bureaucratic structure on the implementation of COVID-19 close contact tracing, with the policy context being the power and interests of stakeholders as a moderator variable.

MRA is a form of multiple regression with regression-line polynomials that describe the nonlinear effect expressed in the form of the following equation:

Y = a + b1X1 + b2X2 + b3X3 + b4X4 + b5Z + b6X1Z + b7X2Z + b8X3Z + b9X4Z+ e

mean:

Y = Implementation of close contact tracing of COVID-19

- A = Constant
- b = Regression coefficient
- X1 = Communication

- X2 = Disposition
- X3 = Resource
- X4 = Bureaucratic Structure
- Z = Policy Context

Before doing statistical tests for MRA, a classic assumption test was done to know if the regression equation obtained has accuracy in estimation, so it is unbiased and consistent. The traditional assumption test in this study includes tests for normality, linearity, multicollinearity, and heteroscedasticity.

#### RESULTS

#### **DESCRIPTION OF THE STUDY AREA**

The study was carried out in Banjar Regency in all work areas of public health centres, with a total of 25 Puskesmas (Pusat Kesehatan Masyarakat [community health centres] abbreviated as Puskesmas are government mandated community health clinics in Indonesia). The population of Banjar Regency in 2021 was 572,109 people. The population density in Banjar Regency is still uneven, due to the topography of the area and the population concentration in the district's capital. The average population density is 112 people per km<sup>2</sup>, and the area with the largest population density is the Martapura District, which has 2,933 people per km<sup>2</sup>. The population density is in line with the number of COVID-19 cases in the Banjar Regency area; the most confirmed cases of COVID-19 are in areas with high population density. The COVID-19 situation, based on public health centres in Banjar Regency, can be seen in the following Table 1.

Table 1 shows that the total number of confirmed cases in Banjar Regency was 8,249, with the most confirmed cases being in public health centre Martapura 1, which is located in the Martapura District area - which has a high population density; active cases at March 30, 2023, in the work area of the public health centre Kertak hanyar; with close contact data of 0, which means that close contact tracing was not carried out for the confirmed cases found.

#### SAMPLE CHARACTERISTICS

The descriptive analysis of respondent characteristics in this study is divided into four characteristics: gender, age, education, and length of employment, with the results shown in the following Table 2.

#### TABLE 1. THE COVID-19 SITUATION IN BANJAR REGENCY PERIOD AT 30<sup>TH</sup> MARCH 2023

Public bealth center	Confirmed	Total Confirmed	Healed		Active	Death		Close	Pisk Zone
Fublic healthcenter	case today	Cases	Total	Recovery Rate (%)	Case	Total	CFR (%)	Contact	NISK ZOTIE
Martapura 1	0	2.594	2.515	96,95	0	79	3,05	0	No cases
Kertak Hanyar	1	1.129	1.108	98,14	1	20	1,77	0	Low
Gambut	0	816	805	98,65	0	11	1,35	0	No cases
Sungai Tabuk 3	0	805	798	99,13	0	7	0,87	0	No cases
Matartapura 2	0	586	576	98,29	0	10	1,71	0	No cases
Sungai Tabuk 1	0	403	392	97,27	0	11	2,73	0	No cases
Mataraman	0	286	278	97,20	0	8	2,80	0	No cases
Astambul	0	194	185	95,36	0	9	4,64	0	No cases
Karang Intan 2	0	259	254	98,07	0	5	1,93	0	No cases
Martapura Timur	0	174	166	95,40	0	8	4,60	0	No cases
Aluh-aluh	0	135	129	95,56	0	6	4,44	0	No cases
Pengaron	0	85	83	97,65	0	2	2,35	0	No cases
Tatah Makmur	0	86	82	95	0	4	5	0	No cases
Martapura Barat	0	113	111	98,23	0	2	1,77	0	No cases
Karang Intan 1	0	109	108	99,08	0	1	0,92	0	No cases
Simpang Empat 1	0	109	106	97,25	0	3	3	0	No cases
Sungai Tabuk 2	0	78	77	98,72	0	1	1	0	No cases
Beruntung Baru	0	57	53	92,98	0	4	7,02	0	No cases
Simpang Empat 2	0	72	71	98,61	0	1	1,39	0	No cases
Sambung Makmur	0	28	28	100	0	0	0	0	No cases
Telaga Bauntung	0	31	31	100	0	0	0	0	No cases
Aranio	0	25	25	100	0	0	0	0	No cases
Sungai Pinang	0	58	58	100	0	0	0	0	No cases
Paramasan	0	1	0	0	0	1	0	0	No cases
Cintapuri Darussalam	0	16	16	0	0	0	0	0	No cases
	1	8.249	8.055	97,66	1	193	2,34	0	Low

#### TABLE 2. SAMPLE CHARACTERISTICS - PARTICIPANT TRACERS

Variable	Frequency (n=119)	Percentage (%)
Age:		
< 20 years old	2	1.7
20-35 years old	84	70.6
> 35 years old	33	27.7
Gender:		
Male	45	37.8
Female	74	62.2
Education:		
High school	38	31.9
Diploma 3	63	52.9
Bachelor's degree	18	15.1
Length of employment:		
>6 months - 1 year	35	29.4
>1 year - 2 years	53	44.5
>2 years	31	26.1

The data in the respondent characteristics table was analyzed descriptively and divided into four characteristics: gender, age, education, and years of work. The analysis involves describing only the counts or numbers for each of these characteristics.

Based on Table 2, the samples ages are mostly in the 20-35 years range, accounting for 70.6%. The most prevalent gender is female, at 62.2%. The highest proportion of

samples educational level is Diploma 3 graduates, constituting 52.9%. In terms of length of employment as tracers, the majority fall within the range of over 1 year to 2 years, making up 44.5%.

#### STATISTICAL TEST RESULTS

Based on the results of the data normality test with one sample of Kolmogorov-Smirnov, it is known that the asymp.sig (2-tailed) value is 0.200 > 0.05, so it can be said that the regression model fulfils the normality assumption. Linearity testing, by performing a test for linearity at a significant level of 0.05, the test results obtained a value of linearity (sig.) of 1.000 > 00.05, so it can be concluded that there is a linear relationship between the independent and dependent variables and the moderator variable. Multicollinearity in the regression model is determined by the tolerance value and the variance inflation factor (VIF). The test results obtained tolerance values for all independent variables and moderator variables > 0.10 with VIF values < 10, which means that the independent variables and moderator variables are free from multicollinearity. In this study, the heteroscedasticity test used the Glejser test, with the result value (sig.) of all

independent variables and moderator variables > 0.05, so that it can be concluded that the independent variables and moderator variables are free from heteroscedasticity.

#### MULTIPLE LINEAR REGRESSION ANALYSIS

This test aims to determine the effect of factors, namely communication, disposition, resource, and bureaucratic structure, on tracers in the implementation of close contact tracing of COVID-19 in Banjar Regency before the interaction of the moderator variable. The statistical test results can be seen in Table 3 below.

Variable	Regression Coefficient	t count	Probability p-value	R Square	F count	Sig. F
Constant	-0.309	-0.108	0.914			
Communication (X1)	0.271	2,077	0.040		30,679	0.000
Disposition (X2)	0.347	3,608	0.000	0.518		
Power Source (X3)	0.081	0.960	0.339			
Bureaucratic Structure (X4)	0.426	3,734	0.000			

#### TABLE 3. MULTIPLE LINEAR REGRESSION ANALYSIS TEST RESULTS

Based on the test results in Table 3, it can be determined that the regression equation in this study is

 $Y = -0.309 + 0.271 \times 1 + 0.347 \times 2 + 0.081 \times 3 + 0.426 \times 4.$ 

With the regression equation above, it can be estimated the magnitude of the implementation of close contact tracing of COVID-19 for communication, disposition, resource, and policy structure. The constant value is negative, namely -0.309, meaning that if communication, disposition, resource, and bureaucratic structure are equal to zero (0), the implementation of close contact tracing of COVID-19 will decrease. The regression coefficient values of the communication variable, disposition, resource, and bureaucratic structure variables are positive, meaning that these variables have a positive effect on tracers in the implementation of close contact tracing of COVID-19 in Banjar Regency. It is known that the value of R Square (coefficient of determination) is 0.518 meaning that simultaneously the variables of communication, disposition, resource and bureaucratic structure influenced tracers in the implementation close contact tracing of COVID-19 by 51.8%, while the remaining 48.2% were influenced by other variables not observed in this study.

Based on Table 3, a p-value (Sig. F) of 0.000 < 0.05 is obtained, which means that simultaneously the independent variables (communication, disposition, resource, and bureaucratic structure) affect tracers in the implementation of close contact tracing of COVID-19 in Banjar Regency. However, in the partial test, there are resource factors that didn't affect the implementation of close contact tracing of COVID-19, with a p-value of 0.339.

#### MODERATED REGRESSION ANALYSIS (MRA) OF POLICY CONTEXT AS MODERATOR VARIABLES

An interaction test of moderate regression analysis (MRA) will be done on all independent variables X1, X2, X3, and X4, with the policy context variables as the moderator variable (Z). The MRA test results can be seen in Table 4 as follows:

TABLE 4. TEST RESULTS	WITH MODERATED	REGRESSION	ANALYSIS	(MRA)
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Variable	Regression	Probability p-	R Square	R Square	F	Sig. F
Valiable	Coefficient	value	before	after	count	
Constant	-36,418	0.071				
Communication (X1)	1310	0.278				
Disposition (X2)	1,562	0.033				
Power Source (X3)	-1,326	0.051				
Bureaucratic Structure (X4)	.475	0.542		0 557	15 197	0.000
Policy Context the power	1,481	0.047	0.518			
and interests of stakeholders			0.010	0.007	10,177	0.000
(Z)						
XIZ	043	0.345				
X2Z	044	0.093				
X3Z	.050	0.036				
X4Z	002	0.951				

Based on Table 4 information, the MRA test obtained the results of the regression equation in this study, namely: Y = -36.148 + 1.310X1 + 1.562X2 - 1.326X3 + 0.475X4 + 1.481Z -0.043X1Z - 0.044X2Z + 0.050X3Z - 0.002X4Z. With the regression equation above, it can be estimated that the magnitude of the implementation of close contact tracing of COVID-19 for communication, disposition, resources, policy structure, and policy context as moderator variables. The constant value is negative of -0.309, meaning that if communication, disposition, resource, bureaucratic structure, and policy context as moderator variables are equal to zero (0), the implementation of close contact tracing of COVID-19 will decrease. The R square value in the first regression (before the interaction of the moderator variable) was 0.518, or 51.8%, after there was a regression equation with the moderator variable, the R square value increased to 0.557, or 55.7%. So, it can be concluded that the existence of a policy context as a moderator variable will strengthen the influence of the variables of communication, disposition, resource, and bureaucratic structure on tracers in the implementation of close contact tracing of COVID-19 in Banjar Regency. The results of the ANOVA test in the SPSS program produce a significance level of 0.000 < 0.05, Then the regression model can be used to predict variable Y or know that the independent variables X1, X2, X3, X4, and Z jointly affect variable Y.

The effect of the independent variables on the dependent variable partially in a moderator variable based on test results on the communication variable and bureaucratic structure moderator variable is only a moderating homogenizer as potential moderation. This means that the policy context variable didn't interact with the communication and bureaucratic structure variables and didn't have a significant relationship with the implementation of close contact tracing for COVID-19 as a variable. In the disposition variable, the effect of the moderating variable is a predictor of moderation, meaning that the policy context variable is an independent variable in the relationship model. Whereas in the resource variable, there is a significant effect from the moderator variable with a significant level of 0.051 (>0.05), and the significance of the interaction with the moderator variable (X1Z) of 0.036 (< 0.05), so it can be concluded that the policy context variable on the resource variable is a pure moderator. This means that the policy context variable moderated the relationship between the resource variable and the implementation of close contact tracing of COVID-19, where the pure moderate variable interacted with the independent variable without becoming the independent variable.

# DISCUSSION

Based on secondary data on the COVID-19 situation, it is known that close contact tracing of confirmed cases wasn't carried out. This needs to receive attention from the Health Department or the Regency COVID-19 in Banjar Task Force to prevent further transmission. Contact tracing is an important public health tool for limiting the spread of infectious diseases. Effective and efficient contact tracing involves the rapid identification of individuals with infections

Communication Factors, Dispositions, Resources, And Bureaucratic Structure Have An Effect On The Implementation Of Close Cont act Tracing Of COVID-19 In Banjar Regency, With Policy As A Moderating Variable 7 and their exposed contacts, and ensuring their isolation or quarantine, respectively. [3,4] Although the availability of vaccines and other treatments is adequate, contact tracing still must be done to identify exposed individuals at risk and direct them to health services. [16]

The test results showed an effect of factors: communication, dispositions, resource, and bureaucratic structure on tracers in the implementation of close contact tracing of COVID-19 in Banjar Regency. The magnitude of the influence of factors such as communication dispositions, resource, and bureaucratic structure simultaneously on the implementation of close contact tracing of COVID-19 in Banjar Regency was 51.8%; the rest was influenced by other factors not examined in this study (48.2%). A different study also explained that the four factors interacted together to influence policy implementation. [9,17,18] Policy implementation can do well if communication is carried out systematically and massively, resources are adequate, sufficient, and of good quality, a disposition is appropriate, and the bureaucratic structure is distinct. However, several other studies also stated that, apart from those four factors, there are other influencing factors in the implementation of a policy. [2,10,11,19]

Other factors that may influence this study are the power, interests, and strategies of the actors involved, which will be further analyzed as moderator variables in this study. Another study concludes that efforts to realize policy implementation depend on other factors, including the interests of the actors involved, their power, and the suitability of the running system.[12,14,20-22] Another factor that may also influence this is community participation.[11,23,24] If the policy has been implemented properly by officers and has been supported by actors who have power and interests, the results can't be maximized, if it is not supported by the community as a policy recipient. Several studies also stated that the existence of stigma, rejection, and less community cooperation in close contact can affect the results of close contact tracing.[25] However, this study didn't collect data on the community, which might be a recommendation for further study.

Based on the results of the study, there was an increase in effect. It is based on the results of the interaction test of four factors, namely communication, dispositions, resource, and bureaucratic structure, with the policy context as the moderator variable. The policy context in terms of power and the interests of the actors involved manages to moderate the resource factor as a pure moderator, which means that with the policy context variable, the influence of resource factors will increase on the tracer in the implementation of close contact tracing of COVID-19 in Banjar Regency.

Resources are one of the variables required for the successful implementation of a program or policy. It is useful to support the implementation of a policy. Without sufficient human and financial resources, the implementation of a policy will be disrupted. Although various policies have been issued regarding the implementation of activities, it is the strategies and actors that determine the success or failure of the issued policies, with the authority to make internal policies, agencies, an otherwise flexible budget, adequate infrastructure, and sufficient and qualified human resources that follow the organizational structure formed. [12,14]

Lack of commitment and support from stakeholders will lead to a lack of regulation of resource allocation, be it employee, funding, or facility, requiring the participation of policy stakeholders in efforts to formulate policies, processes, and even the results that are achieved.[11] So, based on the results of this study, an implementation that is well supported by the power and interests of the actors involved; by supporting the availability of resources, both human and financial; and the involvement of these actors in the implementation process, will run optimally. In the implementation of contacting, tracing involves the important roles of individuals, communities, and resources, including implementers and supporting policy actors, so that the health system and public health can be maintained.[16]

The study was conducted involving tracers who were only one of the implementing actors in the implementation of close contact tracing of COVID-19. This was without collecting data on other implementing actors and policymaking actors and the public as policy recipients, so the data obtained a view of the tracer and the presence of constraints in data collection which was carried out during the rainy season so that several study locations couldn't be reached, by public transportation due to natural conditions and inadequate road infrastructure causing interviews with several respondents to be conducted using the telephone which was felt to be ineffective because respondents sometimes are less focused in conducting interviews compared to face-to-face.

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# CONCLUSIONS

Simultaneously, the factors of communication, disposition, resources, and bureaucratic structure affect tracers in the implementation of close contact tracing of COVID-19 in Banjar Regency. Partially, some factors do not have an effect, namely the resource factor. Based on the results of MRA testing, the influence of resource factors increases with the existence of policy context variables, namely the power and interests of the actors involved and moderator variables as pure moderators.

Although Banjar district has implemented a vaccination program, contact tracing is still needed to direct them to health services to prevent and control COVID-19. Based on the study results, it is necessary to optimize the implementation of COVID-19 close contact tracing in the Banjar Regency. The actors who have power and interests should better support the availability of resources, both in quality and quantity, without neglecting other factors, namely communication, disposition, and bureaucratic structure, and continue to increase promotional efforts of health services to prevent stigma, rejection, and a lack of cooperation in identifying close contacts with COVID-19.

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#### **CONFLICTING INTEREST:**

The authors declare that there is no conflict of interest.

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#### References

- 1. Satuan Tugas Penanganan Covid-19. Analisis Data Covid-19 Indonesia. Jakarta; 2023.
- Asiimwe N, Tabong PTN, Iro SA, Noora CL, Opoku-Mensah K, Asampong E. Stakeholders perspective of, and experience with contact tracing for COVID-19 in

Ghana: A qualitative study among contact tracers, supervisors, and contacts. PLoS One [Internet]. 2021;16(2 February):1–19. Available from: http://dx.doi.org/10.1371/journal.pone.0247038

- Udeagu CCN, Pitiranggon M, Misra K, Huang J, Terilli T, Ramos Y, et al. Outcomes of a Community Engagement and Information Gathering Program to Support Telephone-Based COVID-19 Contact Tracing: Descriptive Analysis. JMIR Public Heal Surveill. 2022;8(11).
- Amir H. Strategies in Preventing the Transmission of Covid-19 a Quarantine, Isolation, Lockdown, Tracing, Testing and Treatment (3T): Literature Review. Asia Pacific J Heal Manag. 2022;17(2):1–6.
- Reintjes R. Lessons in contact tracing from Germany: Germany built on existing local infrastructure to get ahead of the covid-19 pandemic. Vol. 369, The BMJ. 2020. p. 1–2.
- Sitompul TH, Meilani P, Salsabila S, Hariwangi LL. SILACAK: Bagaimana Penggunaan Aplikasi Pelacakan Kasus Kontak Erat COVID-19 di Indonesia. Indones Heal Inf Manag J. 2021;9(2):127–37.
- Juhairiyah, Adhani R, Arbain T, Lahdimawan A, Agency

   Disposition and bureaucratic structure as
   variableshave the most influence on tracers in the
   implementation of close contact tracing of Covid-19 in
   Banjar Regency. Addaiyan J Art, Humanit Sos Sci.
   2023;2(5):9–17.
- Shelby T, Hennein R, Schenck C, Clark K, Meyer AJ, Goodwin J, et al. Implementation of a volunteer contact tracing program for COVID-19 in the United States: A qualitative focus group study. PLoS One. 2021;16(5 May):1–22.
- Hayati D. Analysis of the Implementation of Close Contact Tracing Policies and Self-Isolation Monitoring of Covid-19 Sufferers by Community Health Centers in Palembang City. Sriwijaya; 2021.
- Seputra II. Pengaruh Implementasi Kebijakan Terhadap Efektivitas Penanggulangan Covid-19 Oleh Pemerintah Daerah Kabupaten Kerinci. Nusant J Ilmu Pengetah Sos. 2020;7 (2):408–20.
- Drasospolino, Supriyono B, Haryono BS, Domai T. The effect of implementation on successful forest management policy, moderated by actor-network and stakeholder collaboration. For Stud. 2021;75(1):119–39.
- Campos PA, Reich MR. Political Analysis for Health Policy Implementation. Heal Syst Reform. 2019;5(3):224–35.

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- Afzal MM, Pariyo GW, Lassi ZS, Perry HB. Community health workers at the dawn of a new era: 2. Planning, coordination, and partnerships. Heal Res Policy Syst suppl 3 [Internet]. 2021;19:1–17. Available from: <u>https://www.proquest.com/scholarly-</u> journals/community-health-workers-at-dawn-new-era-2/docview/2583216921/se-2?accountid=169732
- Osmanlliu E, Rafie E, Bédard S, Paquette J, Gore G, Pomey MP. Considerations for the design and implementation of covid-19 contact tracing apps: Scoping review. JMIR mHealth uHealth. 2021;9(6).
- Rezigalla AA. Observational Study Designs: Synopsis for Selecting an Appropriate Study Design. Cureus. 2020;12(1):6–10.
- El-Sadr WM, Platt J, Bernitz M, Reyes M. Contact Tracing: Barriers and Facilitators. Am J Public Health. 2022;112(7):1025–33.
- Shelby T, Arechiga C, Gupta AJ, Hennein R, Schenck C, Weeks B, et al. "I can't do it": A qualitative study exploring case and contact experiences with COVID-19 contact tracing. BMC Public Health. 2022;22(1):1–12.
- Abadie A, Roux M, Chowdhury S, Dey P. Interlinking organisational resources, AI adoption and omnichannel integration quality in Ghana's healthcare supply chain. J Bus Res [Internet]. 2023;162:113866. Available from: <u>https://www.sciencedirect.com/science/article/pii/S0</u> <u>148296323002242</u>
- Nguyen VT, Nguyen CTH. Factors Influencing Intention to use the COVID-19 Contact Tracing Application. J Comput Sci. 2022;18(6):453–62.
- Jacobson TA, Smith LE, Hirschhorn LR, Huffman MD. Using implementation science to mitigate worsening health inequities in the United States during the COVID-19 pandemic. Int J Equity Health. 2020;19(1):1–7.
- 21. Sembiring RA. Analisis Aktor Pembangunan dalam Smart Environment Kota Kediri Tahun 2021. J IIm Ilmu Sos. 2022;8(1):88–108.
- Hasanah Y, Dai RM, Sari DS. Implementasi Kebijakan Fungsi Puskesmas Selama Pandemi Covid 19 Di Puskesmas Margahayu Selatan Kabupaten Bandung. Responsive. 2021;3(4):223.
- Shelby T, Schenck C, Weeks B, Goodwin J, Hennein R, Zhou X, et al. Lessons Learned From COVID-19 Contact Tracing During a Public Health Emergency: A Prospective Implementation Study. Front Public Heal. 2021;9(August):1–10.

- Shelby T, Arechiga C, Gupta AJ, Hennein R, Schenck C, Weeks B, et al. "I can't do it": A qualitative study exploring case and contact experiences with COVID-19 contact tracing. BMC Public Health. 2022;22(1):1–11.
- 25. Shiriyan H, Almas PR, Choplujeh TT, Maheri M. Relationship Between the Trust in a Health Care System and Adherence to COVID-19 Preventive Behaviors Among the General Population in 2021. Asia-Pacific J Heal Manag. 2023;18(2):1–11.